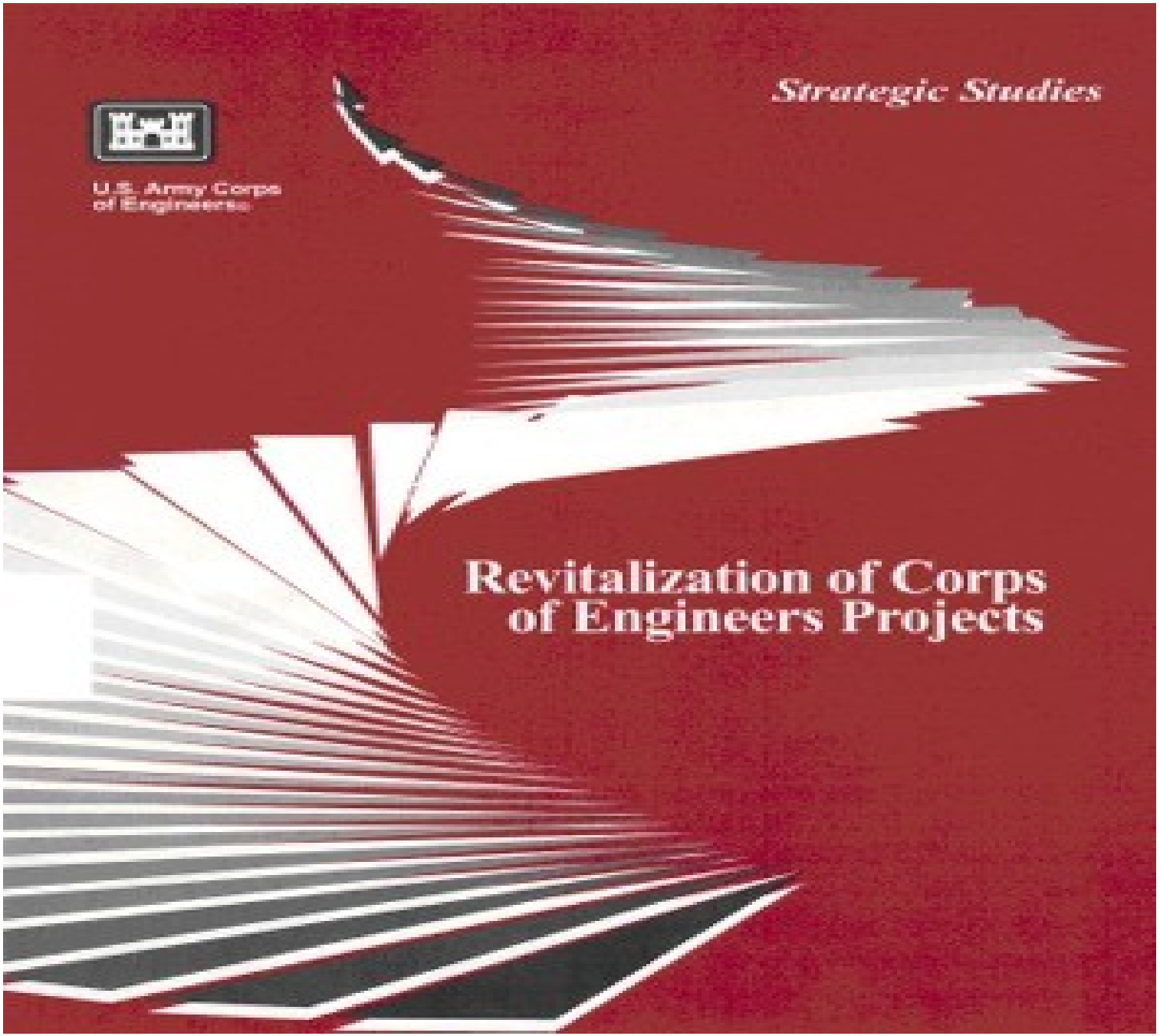
Revitalization of Corps of Engineers Projects

By William C. Holliday


Strategic Studies
U.S. Army Corps of Engineers
Revitalization of Corps of Engineers Projects

Purpose of Report

- Explore ways to improve effectiveness & productivity of Corps projects constructed over past 160 years
- Develop framework for necessary revitalization

Primary Objectives

- Determine basic considerations to be addressed
  - Where conditions have changed
  - As contemporary thinking reveals new opportunities
- Develop a framework
  - Investigating needs
  - Reaffirming feasibility
  - Improving contribution to contemporary needs

Interrelated Concerns

- Some projects should not continue to be maintained
  - Service level does not justify expenditures
  - Adverse environmental/social effects outweigh beneficial economic effects

Interrelated Concerns

- Adequate maintenance, **but:**
  - Not meeting increasing demands on existing functions
  - No adaptation to new demands

“Revitalization”

- Improve/increase beneficial outputs, short of replacement of project
- Increased or new beneficial exploitation of underutilized assets

Existing Corps Projects by Type

- 377 dams & reservoirs
- 100s of LFDRs
- 929 harbors
- 12,000 miles of commercial navigation channels with 230 lock & dams

Commonalities & Differences

- Physical and operational
- Environmental
- Economic
- Budget and funding

Problems & Opportunities

- Matrix of attributes for each type
  - Levels of management
    - Project
    - System
    - Program (nationwide)
  - Resources and demands by type

Present Policies & Guidance

- Little directly related to revitalization
- Environmental operating principles
- Watershed Principles
- None for economic performance monitoring

Revitalization Framework: for all 4 types

- Principles & objectives in common
- Multi-dimensional complex of attributes at all levels
- Assess relative magnitudes of problems & opportunities
- Identify objectives programmatically
- Prioritize actions for optimum program management
- Develop policy & guidance

Common Principles & Objectives for all types

- Provide optimum well-being for foreseeable future, subject to oversight
- Adhere to watershed management & environmental operating principles
- Demonstrate that benefits of continuing OMRR&R exceed costs

Common Principles & Objectives for all types

- Maximize economic efficiency with departures for EQ
- Contribute to EQ to extent departures allow
- Should not depend solely on State & Local certifications in judging environmental acceptability

A Complex of Attributes

- Range of problems and opportunities
  - Eight categories of problems
  - Eight categories of opportunities

Eight Categories of Problems

- Minor operational deficiencies
- Moderate operation & management problems
- Major deficiencies in fulfilling authorized purposes
- Major deficiencies in meeting current demands
- Deficiencies in meeting authorized **&** current demands
- Incapable of meeting current demands
- Incapable of fulfilling authorized purposes
- Incapable of meeting authorized purposes **&** current demands

Eight Categories of Opportunities

- Minor operational changes
- Moderate changes in operation & management
- Major changes in operation & management
- Minor operational & structural modifications
- Moderate structure & operation changes
- Major structure & operational changes
- Moderate operation, structural and off-project development
- Major operation, structural, and off-project development

Relative Potentials for Problems: High= 1 Very Low = 6

	Harbors	Inland Waterways	Lakes	LFDRs
Economic	1	4	6	4
Environment	1	3	5	4
Overall	1	3.5	5.5	4

Relative Potentials- Opportunities
High = 6 Very Low = 1

	Harbors	Inland Waterways	Lakes	LFDRs
Economic	1	2	3	2
Environment	1	3	4	2
Overall	1	2.5	3.5	2

Composite Relative Potentials

From 1 = High problem, Very low opportunity

To 6 = Very low problem, High opportunity

Harbors - 1 – very low

Inland waterways - 3 – moderate

Lakes - 4.5 – moderate to high

LFDRs - 3 – moderate

A Programmatic Approach

- Targeted
- Efficient management tools
- Revitalized policy guidance
  - Fix existing
  - Develop umbrella

A Programmatic Approach: Components by Project Type

- Harbors
  - Update database of annual O&M costs and compare to usage data
  - Expand usage data and analysis to compare to cost data
  - Fully develop data bridge correlating port data to harbor data

A Programmatic Approach: Components by Project Type

- Inland Waterways
  - Tributary waterways contributions studies
  - Inventory of navigation dams that provide for purposes other than navigation
  - Maximize oxygenation at all navigation dams

A Programmatic Approach: Components by Project Type

- Reservoirs
  - Process to identify reservoirs with excess capacity
  - Process to determine optimum use of excess capacities
  - Lake surface increase, wetland creation, sub-impoundments, fish aquaculture, land for buffering

A Programmatic Approach: Components by Project Type

- LFDRS
  - Tools to identify those with deteriorated degree of protection
  - Procedures for evaluating & resolving deteriorated protection
  - Ecosystem restoration

A Programmatic Approach

- Do not be constrained by existing project authorizations!

Steps to Revitalization

- Three stages
  - Preliminary planning
  - Study
  - Implementation

Steps to Revitalization

- Preliminary stage
  - Confirm, refine this framework
  - Develop preliminary plan of action
    - To proceed to next step using O&M authority/funding, or
    - To support legislative initiative for comprehensive GI study

Steps to Revitalization

- Study stage
  - Preliminary assessment
  - Guidance for next stage
  - Complete plan of action

Steps to Revitalization

- Implementation stage
  - Proceed without program authorization, project by project, or
  - Await program authorization allowing defined actions without further authorization

Revitalization

- Framework is ambitious by necessity
- Must be dealt with in context of missions of Civil Works Program
- At program level, challenge reflects on mission integrity
- The devil is in the details

Revitalization

- Success will depend on substantial long-term, agency-wide commitment, and the support of the Administration and Congress

Thanks!

Good luck!

yadilloh@erols.com